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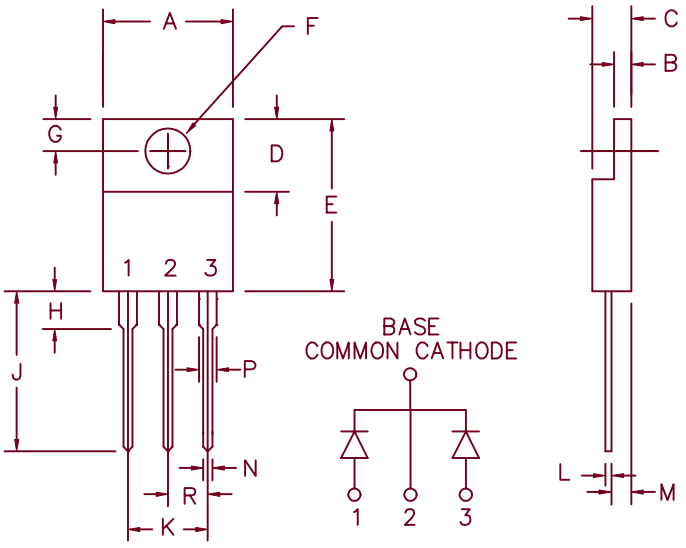
# 10 Amp Schottky Barrier Rectifier

# FST1045




| Dim. | Inches | | Millimeter | | |
|---|---|---|---|---|---|
| | Minimum | Maximum | Minimum | Maximum | Notes |
| A | .390 | .415 | 9.91 | 10.54 | |
| B | .045 | .055 | 1.14 | 1.40 | |
| C | .180 | .190 | 4.57 | 4.83 | |
| D | .245 | .260 | 6.22 | 6.60 | |
| E | .550 | .650 | 13.97 | 16.51 | |
| F | .139 | .161 | 3.53 | 4.09 | Dia. |
| G | .100 | .135 | 2.54 | 3.43 | |
| H | --- | .250 | --- | 6.35 | |
| J | .500 | .580 | 12.70 | 14.73 | |
| K | .190 | .210 | 4.83 | 5.33 | |
| L | .014 | .022 | .357 | .559 | |
| M | .080 | .115 | 2.03 | 2.92 | |
| N | .015 | .040 | .380 | 1.02 | |
| P | .045 | .070 | 1.14 | 1.78 | |
| R | .090 | .110 | 2.29 | 2.79 | |

PLASTIC TO-220AB

| Microsemi Catalog Number | Repetitive Peak Reverse Voltage | Transient Peak Reverse Voltage |
|---|---|---|
| FST1045 | 45V | 45V |

- Schottky barrier rectifier
- Guard ring for reverse protection
- Low power loss, high efficiency
- Reverse energy tested
- $V_{RRM}$ 45 Volts maximum

## Electrical Characteristics

| | | |
|---|---|---|
| Average Forward Current per pkg. | $I_{F(AV)}$ 10 Amps | $T_C$ = 110°C, Square wave, $R_{\theta JC}$ = 2.8°C/W |
| Average Forward Current per leg | $I_{F(AV)}$ 5 Amps | $T_C$ = 110°C, Square wave, $R_{\theta JC}$ = 5.6°C/W |
| Maximum Surge Current per leg | $I_{FSM}$ 200 Amps | 8.3ms, half sine, $T_J$ = 150°C |
| Max. Peak Forward Voltage per leg | $V_{FM}$ .42 Volts | $I_{FM}$ = 5A, $T_J$ = 150°C* |
| Max. Peak Forward Voltage per leg | $V_{FM}$ .52 Volts | $I_{FM}$ = 5A, $T_J$ = 25°C* |
| Max. Peak Reverse Current per leg | $I_{RM}$ 500 mA | $V_{RRM}$, $T_J$ = 125°C* |
| Max. Peak Reverse Current per leg | $I_{RM}$ 2 mA | $V_{RRM}$, $T_J$ = 25°C |
| Typical Junction Capacitance per leg | $C_J$ 380 pF | $V_R$ = 5.0V, $T_J$ = 25°C |

*Pulse test: Pulse width 300 μsec Duty cycle 2%

## Thermal and Mechanical Characteristics

| | | |
|---|---|---|
| Storage temp range | $T_{STG}$ | -55°C to 175°C |
| Operating junction temp range | $T_J$ | -55°C to 150°C |
| Max thermal resistance per leg | $R_{\theta JC}$ | 5.6°C/W Junction to case |
| Max thermal resistance per pkg. | $R_{\theta JC}$ | 2.8°C/W Junction to case |
| Mounting torque | | 15 inch pounds maximum (6-32 screw) |
| Weight | | .08 ounces (2.3 grams) typical |

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1-27-00 Rev. 1

# FST1045

Figure 1
Typical Forward Characteristics – Per Leg

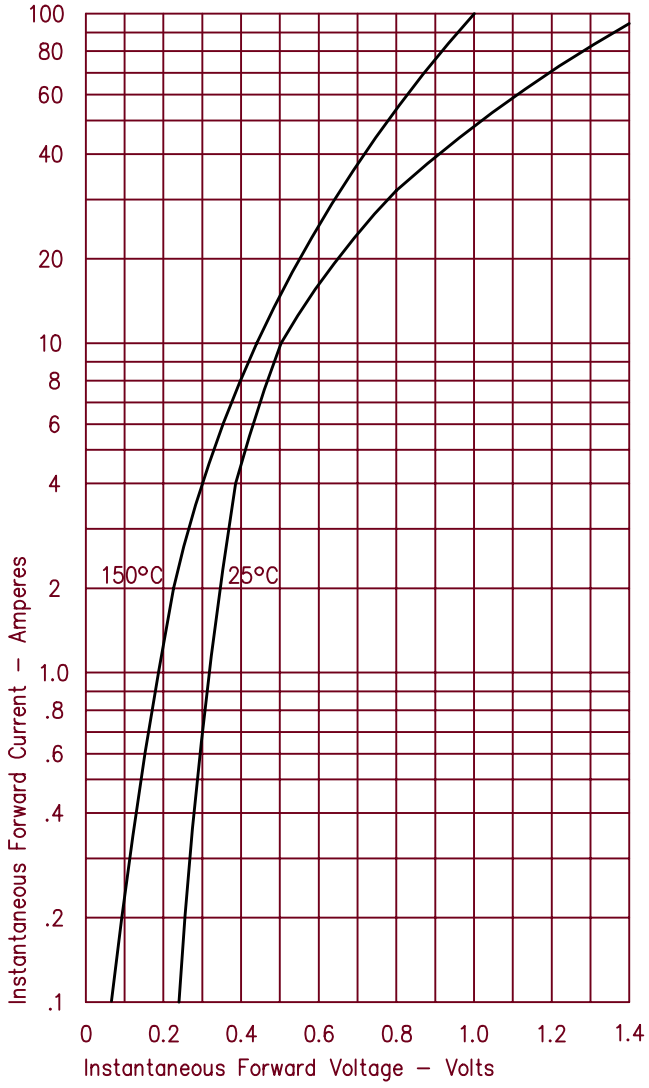



Figure 2
Typical Reverse Characteristics – Per Leg

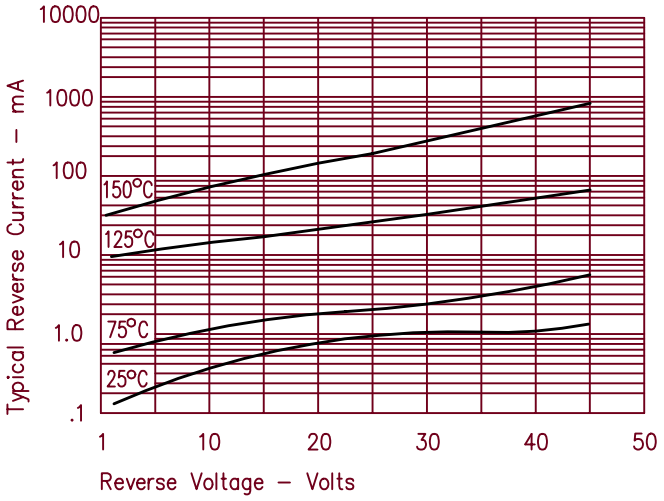



Figure 3
Typical Junction Capacitance – Per Leg

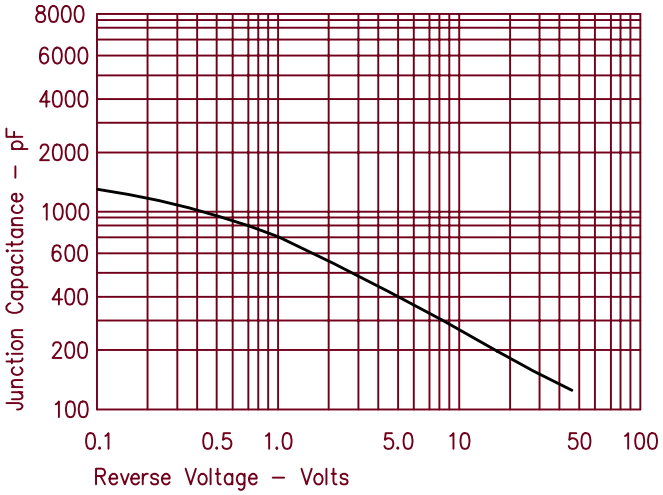



Figure 4
Forward Current Derating – Per Leg

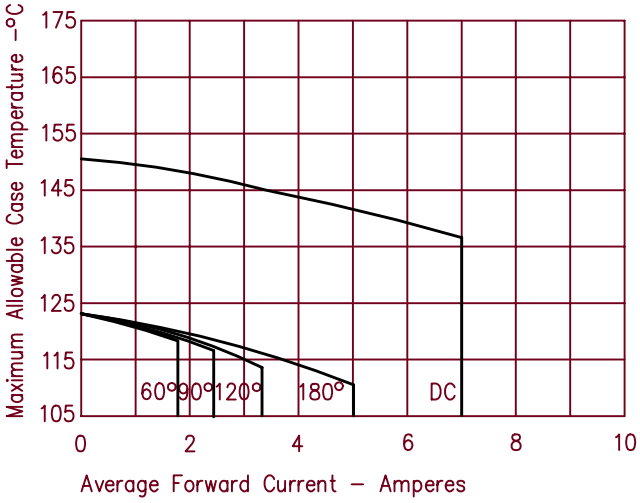
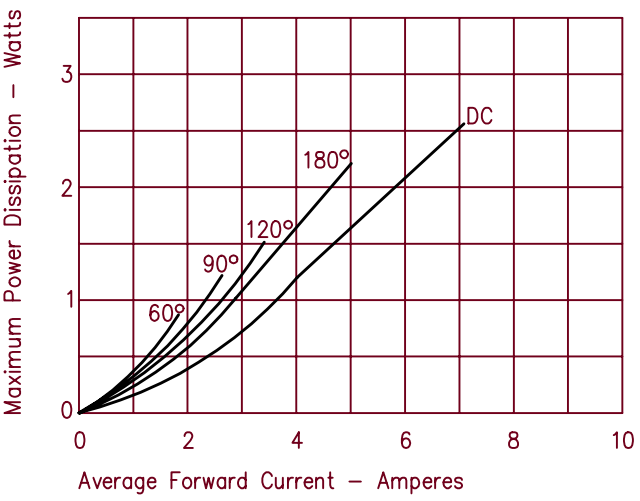



Figure 5
Maximum Forward Power Dissipation – Per Leg

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